

## TRAY AND CUP HOLDER COMBINATION

## RELATED APPLICATION

[0001] This application is a continuation application of United States Patent application 09/876,313 (the '313 application) filed on June 7, 2001 and claims priority from the '313 5 application.

## FIELD OF INVENTION

[0002] The present invention is directed, in general, to a tray and cup holder combination adapted for insertion into the cup holding recess of an automotive console.

## 10 BACKGROUND OF THE INVENTION

[0003] Food purchased at a drive-through restaurant may be eaten while driving. Cup holders are frequently placed in the consoles of automobiles. However, there is still no place to put food such as may be purchased at the drive-through. Disposable food and drink containers are used by drive-through restaurants. A need exists for a disposable cup and tray combination 15 that can hold food items like hamburgers, french fries, and a drink.

[0004] U.S. Pat. No. 5,651,523 (the '523 patent) discloses an "Article Support System Having Multiple Utilities" having two-piece construction, one tray, and a number of concentric cylinders of varying diameter. The weight of the tray and its contents causes the part of the tray designed to fit into the cup holder to bind against the automotive cup holder. (See the '523 20 patent, Fig. 4) A need exists beyond the '523 patent for a combination cup holder and tray with a simple and inexpensive means of attachment to an automotive cup holder.

[0005] U. S. Pat. No. 6,109,580 (the ‘063 patent) discloses a “Food And Beverage Tray Supportable By A Cupholder,” which provides a combination of three cup holders and a single tray. The ‘580 patent is limited to fit one size of cup holder. A need exists beyond the ‘580 patent for a combination cup holder and tray that can fit different sizes of cup holders and that  
5 can support more than one tray.

[0006] U. S. Pat. No. 5,118,063 (the ‘063 patent) discloses a “Concession Tray” having a single tray with one-piece construction. A need exists beyond the ‘063 patent for a tray and cup holder combination that can support a plurality of trays.

[0007] Therefore, a need exists beyond the prior art for a tray and cup holder  
10 combination that is inexpensive to manufacture, adaptable to a variety of vehicle console cup holders, and that can support at least one tray. An invention is needed that can accommodate all  
of these requirements in an effective manner.

## SUMMARY OF THE INVENTION

[0008] The invention that meets the needs identified above is a tray and cup holder assembly having a main tray, a holder, a plurality of trays, and at least one structural support. The holder consists of an inverted truncated cone joined to the main tray and closed at the bottom and is adapted for insertion into the cup holder of an automotive console. At least one tray has a recess adapted to hold the food items and the trays are arranged asymmetrically. Each  
20 tray is generally rectangular in shape and preferably has rounded corners. At least one tray has at least one aperture having a size and orientation designed to hold a container such as a french fry container. A crushable extension is joined to the holder and allows the holder to conform to the shape of the automotive cup holder. Alternatively, the crushable extension may be a pad affixed

to the holder by an adhesive to the outside wall of the cup holder section along the longitudinal axis. A circumferential support, a supplemental support, two inner supports, and a disc support provide structural integrity to the tray assembly. The novel configuration of the tray and cup holder combination makes it inexpensive to manufacture, adaptable to a variety of vehicle console cup holders, and that can support at least one tray.

#### BRIEF DESCRIPTION OF DRAWINGS

[0009] The features of the present invention, which are believed to be novel, are set forth in particularity in the description of preferred embodiments. The following drawings reference 10 the many parts of the invention and are useful in comprehension of the invention as a whole.

[0010] FIG. 1 is a plan view of the preferred embodiment of the Tray and Cup Holder Combination.

[0011] FIG. 2 is a front elevation view of the preferred embodiment of Tray and Cup Holder Combination showing the crushable extension.

15 [0012] FIG. 3 is a rear elevation view of the preferred embodiment of the Tray and Cup Holder Combination.

[0013] FIG. 4 is a left side elevation view of the preferred embodiment of the Tray and Cup Holder Combination.

20 [0014] FIG. 5 is a prospective view of the preferred embodiment of the Tray and Cup Holder Combination.

[0015] FIG. 6 is a section view of the preferred embodiment of the Tray and Cup Holder Combination taken along line a-a of FIG. 1 showing the recessed portions of the circumferential structural support, the left inner support, and the disc support.

[0016] FIG. 7 is a section view of the preferred embodiment of Tray and Cup Holder Combination taken along line b-b of FIG. 2 showing the crushable extension and the holder.

[0017] FIG. 8 is a section view of an alternative embodiment of the Tray and Cup Holder Combination taken along line b-b of FIG. 2 showing a pad adhered to the holder instead of the  
5 crushable extension.

#### DESCRIPTION OF PREFERRED EMBODIMENTS

[0018] FIG. 1 shows Tray and Cup Holder Combination **50** in its preferred embodiment. Generally, Tray and Cup Holder Combination **50** comprises main tray **100**, left tray section **200**,  
10 right tray section **300**, holder **400**, circumferential support **500**, supplemental support **511**, left inner support **541**, and right inner support **551**. Main tray **100** is approximately perpendicular to the cylindrical axis of the automotive cup holder. Specifically, main tray **100** joins circumferential support interior wall **504**, left tray front wall **208**, left tray exterior wall **204**, left tray rear wall **210**, left tray interior wall **206**, right tray front wall **308**, right tray exterior wall  
15 **306**, right tray rear wall **310**, right tray interior wall **304**, left inner support exterior wall **544**, left inner support exterior wall **544**, right inner support interior wall **552**, right inner support exterior wall **554**, holder wall **402**, supplemental support left wall **512**, supplemental support center wall **514**, supplemental support right wall **516**, first tier left wall **422**, first tier left face **424**, second tier left wall **442**, second tier left face **444**, third tier left wall **462**, first tier right wall **428**, first  
20 tier right face **430**, second tier right wall **446**, second tier right face **448**, third tier right wall **464**, and third tier face **466**. The preferred embodiment of Tray and Cup Holder Combination **50** is made of one piece construction and has rounded corners.

[0019] Tray and Cup Holder Combination **50** contains left tray section **200**, which projects downward from main tray **100**. Specifically, left tray section **200** is composed of left tray **202** parallel to main tray **100**. Left tray exterior wall **204**, left tray interior wall **206**, left tray front wall **208**, and left tray rear wall **210** extend downward from and approximately 5 perpendicular to main tray **100**. Left tray **202** is generally rectangular in shape, but may be formed in a variety of shapes including, but not limited to, triangular, pentagonal, hexagonal, octagonal, circular and the like.

[0020] Likewise, Tray and Cup Holder Combination **50** contains right tray section **300**, which projects downward from main tray **100**. Right tray section **300** has right tray **302** parallel 10 to main tray **100**. Right tray exterior wall **306**, right tray interior wall **304**, right tray front wall **308**, and right tray rear wall **310** extend downward from and approximately perpendicular to main tray **100**. Right tray **302** contains right tray aperture **312**. Right tray aperture **312** is adapted to receive a generally rectangular container and hold the container in the vertical position. In the preferred embodiment, right tray aperture **312** is adapted to receive and hold a 15 box of french fries (not shown) in the vertical position. The box (not shown) is inserted into right tray aperture **312** and is contained by the gradually increasing cross-sectional area of the box contacting right tray aperture **312**. Right tray section **300** is generally rectangular in shape, but may be any of a variety of shapes including, but not limited to, triangular, pentagonal, hexagonal, octagonal, and the like.

20 [0021] As seen in FIG. 3, Tray and Cup Holder Combination **50** also contains holder **400**, which projects downward from and approximately perpendicular to main tray **100**. Holder **400** consists of holder wall **402**, which extends downward from and approximately perpendicular to main tray **100**, and holder base **404**, which is parallel to main tray **100**. Holder **400** also

contains disc support **580**, which extends concentrically upwards from holder base **404**. Disc support **580** secures a beverage cup (not shown) in holder **400** so that the beverage cup will not slide along holder base **404**. Holder wall **402** is smaller at the base than at the top in such a manner that it resembles an inverted truncated cone. Holder base **404** connects holder wall **402** and disc support wall **582**, which is concentric with holder wall **402** and extends upwards from holder base **404**. Disc support wall **582** joins disc support base **584** and disc support base **584** is parallel to main tray **100**.

[0022] Crushable extension **410** extends outward from holder wall **402** and from holder base **404** to main tray **100**. Crushable extension **410** has three tiers of elements as illustrated in FIG. 7. These tiers taper closer to holder wall **402** as they approach the base of holder **400** as illustrated in FIG. 4. First tier left wall **422** and first tier right wall **428** are joined at an approximate right angle to holder wall **402**. First tier left face **424** is joined at an approximate right angle to first tier left wall **422**. First tier right face **430** is joined at an approximate right angle to first tier right wall **428**. Second tier left wall **442** is joined approximately perpendicular to first tier left face **424**. Second tier right wall **446** is joined approximately perpendicular to first tier right face **430**. Second tier left face **444** is joined approximately perpendicular to second tier left wall **442**. Second tier right face **448** is joined approximately perpendicular to second tier right wall **446**. Third tier left wall **462** is joined approximately perpendicular to second tier left face **444**. Third tier right wall **464** is joined approximately perpendicular to second tier right face **448**. Third tier face **466** is joined approximately perpendicular to both third tier left wall **462** and third tier right wall **464**. Third tier apex face **468** projects inwardly and downwardly from third tier face **466** to holder wall **402**. Third tier apex face **468** also joins on its left side with first tier left apex face **426** and on its right side with first tier right apex face **432**. First tier left apex face

426 joins with holder wall 402, first tier left wall 422, second tier left face 444, third tier apex face 468 and tapers towards third tier apex face 468. First tier right apex face 432 connects with holder wall 402, first tier right wall 428, second tier right face 448, and third tier apex face 468 and tapers toward third tier apex face 468.

5 [0023] Holder 400 is guided into the automobile's cup holder by holder base 404 and third tier apex face 468. As holder 400 is inserted into the automobile's cup holder (not shown), third tier face 466 and holder wall 402 will come into contact with the inside walls of the cup holder. When this happens, the continued application of force on the top of Tray and Cup Holder Combination 50 will force crushable extension 410 to deform and assume the shape of  
10 the inside wall of the cup holder. The deformation of crushable extension 410 provides a secure fit of Tray and Cup Holder Combination 50 in to the cup holder of the automobile.

[0024] Tray and Cup Holder Combination 50 also contains a plurality of supports that provide structural integrity. Circumferential support 500 is joined along the perimeter of Tray and Cup Holder Combination 50 and extends upwardly from main tray 100. As seen in Fig. 6,  
15 circumferential support 500 has circumferential support interior wall 504 extending upwardly from and approximately perpendicular to main tray 100, circumferential support cross-member 506 extending parallel to main tray 100, circumferential support exterior wall 508 extending parallel to circumferential support interior wall 504, and lateral extension 510 extending parallel to and coplanar with main tray 100.

20 [0025] Supplemental support 511 is an extension of circumferential support cross-member 506 near crushable extension 410. Supplemental support 511 consists of supplemental support left wall 512, supplemental support center wall 514, and supplemental support right wall

516, each extending upwardly from and approximately perpendicular to main tray 100. Supplemental support 511 adds structural integrity to Tray and Cup Holder Combination 50.

[0026]       Tray and Cup Holder Combination 50 contains left inner support 541 and right inner support 551. Left inner support extends upward from main tray 100 and consists of left inner support interior wall 542 and left inner support exterior wall 544 extending upwardly from an approximately parallel to main tray 100, and left inner support cross-member 550, which is parallel to main tray 100 and joins left inner support interior wall 542 and left inner support exterior wall 544. Left inner support 541 provides structural integrity to Tray and Cup Holder Combination 50 when a load is placed upon left tray section 200.

10      [0027]       Likewise, right inner support 551 extends upward from main tray 100 and consists of right inner support interior wall 552, right inner support exterior wall 554, both of which extend upwardly from and are approximately perpendicular to main tray 100, and right inner support cross-member 560, which is parallel to main tray 100 and joins right inner support interior wall 552 and right inner support exterior wall 554. Right inner support 551 provides structural integrity to Tray and Cup Holder Combination 50 when a load is placed upon right tray section 300.

[0028]       As seen in FIG. 8, an alternative embodiment of Tray and Cup Holder Combination 50 replaces crushable extension 410 with at least one pad 600. Pad 600 is attached to holder wall 402 by an adhesive suitable for securing pad 600 to Tray and Cup Holder Combination 50. Pad 600 may be made of foam, felt, or another suitable material that is capable of being deformed upon being inserted into the cup holder.

[0029]       It is to be understood that while certain forms of the preferred embodiment of Tray and Cup Holder Combination 50 have been described herein, it is not to be limited to the

specific forms or arrangement of parts described and shown here except insofar as such forms are included in the following claims.

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